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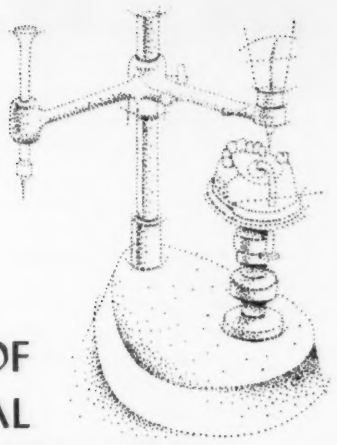


An Introduction:

THE WESTGARD SYSTEM OF PARTIAL DENTAL CLASPING AND RETENTION

BY R. HASE, D.D.S.

The purpose of this paper is to introduce a recent concept in partial denture design and retention, with particular emphasis placed upon elimination of the conventional occlusal rest as a trouble-making fulcrum. The ideas, techniques, and theories that form the basis of the text to follow are not by any means the product of one man's mind. On the contrary, they find their sources in the writings of dozens of authors, covering a period of twenty-plus years.

In reviewing the literature of the last many years, this writer has, by comparison and elimination, found that while prosthodontists and periodontists disagree on several subjects, there remain many principles and theories that are recognized as being constant and true by these same men. An attempt will then be made in this paper to compare the favorable comments with those unfavorable, as regards the technique hereinafter described as the Westgard Technique. Perhaps at this point it is apropos to insert the words of an unknown droll observer: "To steal what one other man has written is plagiarism. To steal what twenty others have written is research." In short, the Westgard Technique is based upon the combination of mucostatic principles with the Roach principles of clasp design. Modification of both are of course apparent.

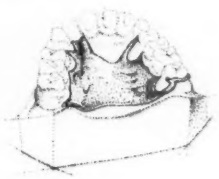
Upon first exposure to the technique, the oft-heard remark is something to this effect: "Of course!—a technique had to be developed whereby a technician could fabricate a case without using occlusal rests because so many dentists either fail to prepare them, or at best, underprepare." Whether or not the economic aspect of the laboratory technician's need to keep the dentist as a customer in spite of the dentist's lack of mouth preparation was a causative factor in developing the technique, is not a question that will be discussed here. The fact remains that whatever stimulated the thinking, several desirable features resulted from Westgard's experimentation.

One of the fundamentals of this technique is that of mesiodistal clasping, instead of the overworked bucco-lingual type. There are few who will disagree that teeth, under most circumstances, will resist a mesial or distal force with less damage to surrounding and subjacent tissues than they will a force applied in a lateral direc-

tion. Especially is this true when several teeth are adjacent to one another, with good contact, and when force is directed mesially or distally to the group.

Next, as a principle to be desired in clasp function, regardless of direction of the force applied as discussed in the preceding paragraph, we will consider the direction, or anatomical area from which we approach the retentive portion of an abutment tooth as determined by accurate surveying.

Spring tension is a simple and positive means of securing retention on a tooth, and is complicated by its deleterious effect on the periodontal membrane of the abutment tooth. It is for this reason that some form of reciprocation is used to counteract stresses transmitted to the periodontal membrane by spring clasps in an attempt to reduce the effects of shear, torsion, and compression placed upon an abutment by movement of the partial denture in mastication. In addition to reciprocation of spring arm-gendered forces, further means of stabilization of a denture are available for use, such as proper balancing of replaced teeth, contacting of two or more parallel surfaces, and that which is so important, coverage of as much mucosal tissue as is possible, being careful to reproduce as nearly as possible all tissue details in order to present more surface to be covered and thereby transmit stresses over as wide an area as possible.



Any clasp leaves much to be desired, but, according to DeVan, and embodying many of the principles of Roach, clasps can be divided into two groups: (1) supra-bulge design, and (2) infra-bulge design. The supra-bulge design includes all circumferential clasps, while the infra-bulge group comprises those clasps that approach the undercut area from the gingival, in contra-distinction to the supra-bulge group, which approaches the undercut from an occlusal direction. Because of the rigid portion of a circumferential clasp, usually extending to about two-thirds the length of the clasp in the tip direction, it remains passive in its action only when it is not disturbed in any way, once seated. Any rocking, tilting, or dislodging force applied to one side of a bilateral case (especially class one, or free-end) must necessarily transmit its forces of torsion, shear, compression, and so forth, to the other side. The rigid portions of the clasp arms must then transmit these forces to the tooth it surrounds, and, as we have known, a tooth can least withstand forces applied in a lateral direction.

Comparing the gingivally approached clasp, or infra-bulge type, to the above, the absence of a rigid portion, usually referred to as the body, will of necessity transmit less lateral stress to an abutment, because much of the varied stresses transmitted to the clasp from another portion of the partial denture in movement will be absorbed in the spring arm of the clasp, which is usually considerably longer than the clasp itself.

There is usually one objection that presents itself when the bar type, or Roach clasp, described above is used, and that occurs in reciprocation. The reciprocal arm is in such a position as to exert transmitted forces due to its relative inflexibility, at least much less flexible than its opponent clasp arm of the bar type.

It appears, therefore, that if forces are to be transmitted to an abutment tooth through its clasp by movement of the partial denture in mastication, that we could cause less trauma to the subjacent tissues and periodontal membrane if we exerted forces mesially and distally instead of bucco-lingually, and also by employing gingival approach to the undercut area. This is a very effective means, yet passive, to counteract tendencies of a dislodging nature. DeVan writes: "In an excellent article, Stone has described a hitherto unobserved factor in retention. He has named this force 'tripping action.' When evoked, it impedes the movement of a clasp to or from its bearing. His tests revealed that under certain circumstances an increase in magnitude of force of as much as 143 per cent is needed to push the same clasp over the bulge as to pull it over." DeVan has pointed out a fact that can well be the reason that so little trouble is encountered when inserting Roach type clasp, inasmuch as they must be pulled over the bulge of a tooth to insert and pushed off to remove it. Much more force, as shown by Stone, is needed to dislodge this type of clasp than to insert it. Another favorable feature of the gingivally approached clasp of the Roach type is that while it is like the circumferential type, passive in its rest stage, it becomes more passive, sometimes inactive, when subjected to vertical stress. It follows that if the clasp arm is already in an infra-bulge portion, it will become less retentive when moved vertically away from the occlusal.

Rules for Selecting Cases

At this point, the question arises, how can it enter an area of lesser retention when there is an occlusal rest? May we remind the reader that we will show that a successful appliance can be made with no occlusal rests to interfere with this function of the gingivally approached clasp. This is advised only in free-end saddle cases. Where an appliance is entirely tooth-borne, conventional clasping can be employed. However, while the success of this technique is most

apparent in free-end saddles, there is no reason why it cannot be employed in certain chosen cases that are tooth-borne. Now, let us examine some simple rules that must be followed in selecting cases for the Westgard Technique, keeping in mind that the technique is *definitely not a panacea*, and must be used only in selected cases. The points to consider in selection follow. Departure from the rules result, as always, in failure, with the ultimate condemnation of the technique by the operator.

A. UPPER CASES.
1. Free-end saddles, bilateral or unilateral.
2. Remaining adjacent teeth must have good contact. Missing points must be restored.
3. Teeth must be well developed and fully grown. Technique is not advised for young patients with short crowns.
4. All other requirements of good mouth restoration prior to prosthetic treatment excepting rest preparations.

B. LOWER CASES.
1. At least one bicuspid must remain on either side, preferably two.
2. Unilateral or bilateral free-end saddle.
3. Remaining adjacent teeth must have good contact. Missing contact points must be restored.
4. All other requirements of good mouth restoration prior to prosthetic treatment excepting rest preparations.

Connectors and Saddles

A discussion of major connectors and saddles is next in order. Glickman, as well as many others, has advised that as much tissue as possible be utilized in constructing saddles, palatal bars, horseshoe-type palates, and other types of major connectors for the purpose of distributing over as wide an area as possible the forces applied to a partial denture in use. Applegate indicates the benefits of intermittent massage to the soft tissues of the mouth through the medium of the supporting base of the denture. Without functional stimulation of a base, disuse atrophy will result. It is important that the stimulation, resulting from massage and pressure, be applied only intermittently, since pressure atrophy could well develop as a result of constant contact under pressure. What better support in the upper arch can be found than the palate? What tissue of the upper arch is less susceptible to atrophic changes? The rugae themselves offer dense tissue for support, and the bony palate is quite unsusceptible to change. Is it not logical then to employ as much of the palate as we can, being careful to avoid by several millimeters the extremely tender and delicate lingual margins of the gingivae? If, in addition to the metal major connector, we employ metal ridge bases, or saddles, we then have a unit that will provide intermittent massage, allow for stimulation of conducted heat, as well as for the escape of body heat from under a denture, and provide a very wide area of support to supplied teeth. Further, with no occlusal rests to provide the see-saw action we all know so well, the pressure to a ridge is not directed constantly to the distal portion only, but is applied evenly over a large area. A five-year observation of cases constructed in this technique reveals remarkable preservation of ridges, and what is most amazing, no imprint of the denture in the mucosa.

Incidentally, in construction the only portion of the upper case that is beaded is the posterior border which is located near the junction of the hard and soft palates as in full-denture construction.

The hue and cry usually sounds with uncountable decibels when we even mention a case with no occlusal rests. It is indeed difficult to bypass years of training and study evaluating the merits of occlusal rests with bucco-lingual clasping. But is it not possible that we have devoted too much effort to applying stress vertically to abutment teeth in order to lessen the damage to them, and at the same time have not considered thoroughly that damage is being done to the abutment teeth through fulcrum leverage and that, in a lever action principle found in the conventional free-end saddle case, the ridge adjacent to the abutment receives little or no stimuli, while the portion of the ridge distal to the abutment is taking a continuous beating? The fact that the pressure applied to the distal ridge is directed at an angle certainly does not aid in its preservation. Alveolar bone can withstand many more pounds of pressure applied in a compressive form than it can physiologically resist pressure applied as torsion or shear. Further, connective tissue, which forms a large part of the subjacent and adjacent portion of basal and alveolar bone, is practically incompressible; so it seems to follow that if compressive forces in an axial direction are applied to this tissue, these forces will be transmitted with little change in intensity to the basal and alveolar bone, which can best hold up under compression.

Basic Features of Westgard Technique

To the writer, then, it appears that by using broad palatal coverage, duplicating exactly all anatomy concerned in a metal base, plus using metal for saddle coverage, and paying close heed to the principles of setting teeth by keeping the occlusal biting plane narrow and interference-free, we can fabricate a partial denture (for the upper arch) that will function healthfully and enjoyably for the patient. To sum up the basic features of an upper free-end sad-

dle partial denture using the Westgard Technique, the ultimate product will have:

1. Broad palatal coverage in a very thin, tapered border metal base that approaches gingival margins no closer than 3 mm.
2. Mesial, distal clasps wherein spring-clasp action is invariably reciprocated by a rigid clasp.
3. No occlusal rests to act as fulcrums.
4. No rigid portion of a clasp bearing on the supra-bulge area of a tooth.
5. No beading except in postdam area.
6. Metal ridge bases, or saddle wherever possible.

All possible emphasis is placed upon the fact that must never be neglected or misinterpreted, lest dire catastrophe result in fabrication of the upper free-end saddle partial denture, namely, that the technique described is not a cure-all, it will work only in selected cases. It was developed under careful experienced dental guidance and was observed for a little more than five years before any claims were made for its merits. In spite of the natural tendency to condemn a technique that violates basic precepts of all we have learned in the past regarding occlusal rests, many hundreds of successful cases do attest to the sageness of a personal trial of the technique by those interested, rather than to consign it to the scrap heap without benefit of observation.

This paper can aptly end with words of DeVan, whose writings and experience have greatly influenced this author. DeVan has offered a thought that should be struck in deathless bronze and hung over the laboratory bench of every practitioner:

> *Our objective should be the perpetual preservation of what remains, rather than the meticulous restoration of what is missing.*

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Red Cross volunteer nurse's aides assist the professional staff at Children's Hospital in Washington, D. C., which maintains 24 different clinics in its outpatient department, making it one of the largest dispensaries of its kind in the United States. Established in 1871, the hospital admits patients between the ages of 18 months and 12 years for medical and surgical treatment "without distinction of race, sex, or creed." An average of more than 300 patients a month are treated in the outpatient department. Photo shows Mildred Douglas having her teeth checked by Doctor Harold N. Greenberg in the dental clinic, with Maude Kean, nurse's aide, standing by. (Photo Authenticated News)

1958 DECEMBER 1958

A Time For Remembering

BY KAY LIPKE

Christmas is a time for remembering.

It is a time when brusque business and professional men drop a great deal of their brusqueness and pause to say "Thank you" to the many people who have served them during the year. Many of these people assist behind the scenes, but their service is real just the same.

They are people like Millie.

Right now Millie is seriously ill in the hospital—and the dentist's office is tinged with gloom. To be sure, he carries on his profession in the usual manner, assisted by his regular office nurse. Patients come and patients go, the telephone rings, the mail arrives—life moves on.

However, for the dentist and his assistant the office is a bit less efficient. Something very warm and friendly and loyal is missing. Although neither of them has met Millie face to face, she has been their friend for a long time and they have depended upon her.

Millie is the voice who has answered their office calls through the telephone-answering exchange. Before and after hours, and when the dentist and his assistant are busy at the chair, Millie has always picked up the office calls on the third ring and taken all messages. Because of Millie's alert service, the dentist has felt that he and his assistant could both be absent from the office on Wednesday. With Millie on the job, any emergency was reported at once.

Apparently Millie had been ill for quite a long time, but no one would have guessed it by her bright and friendly manner over the telephone. There was always a gay overtone to her voice, as if life was an immensely amusing experience which she was enjoying to the full.

For all her gayety, she looked after the dentist and his patients as sympathetically as if she were an integral part of the office. This was all the more remarkable because Millie performed the same service for other dentists, and for physicians and business men as well.

Thinking about Millie—and hoping, oh so fervently, that she recovers rapidly—we began to recall all the people serving behind the scenes of a dental office, people who, by their service and loyalty, help to make that office the efficient service that it is. It is so easy to take them for granted, until the day comes when they are no longer there.

The professional laundry arrives accompanied by Chuck, who is always smiling, happy-go-lucky, and ready to relate the latest stories which he has gathered from other customers along his route. However, if the dentist and his assistant are busy, he slips in and out without a word, leaving his plump packages of spotless towels and uniforms, and taking away with him a bulging sack of soiled linen.

Then there is the dental supply man who comes early Monday morning, as dependable as a railroad timetable. He is an old friend, welcomed as much for his personality as for the quality of supplies he sells. The dentist likes to buy from him if there is anything he needs, but often these Monday morning calls are fruitless except as friendly visits. If the salesman is disappointed, he never shows it. If he has problems of his own, he keeps them to himself; and never does he put on pressure to make a sale, which, perhaps, he needs badly.

For the dentist in general practice, his best and by far most important friend outside the office is the able technician who does his laboratory work. Without the constant cooperation of a skilled technician. the dentist could not possibly maintain his office. He depends upon him constantly.

And so the list goes on and on. Behind the scenes of a dental office, there are many people who, by doing their work efficiently, help a dentist to run his office successfully. They are not as visible as the white uniformed assistants who work ably by his side, but they are greatly needed just the same.

In the rush and tension of a busy dentist's office, it is very easy to forget about them and their service when things go smoothly, and only remember them when, through accident, illness, or other mishap, their vital assistance stops. Then suddenly—like Millie—their absence from their familiar place in the dental scheme of things is felt as acutely as . . . yes, we will say it, . . . as acutely as an aching tooth!

A Merry Christmas to all of them . . . and to you!

1993 Lucile Avenue
Los Angeles, California

Unusual Life—Unusual Dentist

BY ROLLAND B. MOORE, D.D.S.

Some people go to faraway countries seeking the unusual, but Doctor Robert G. Nott of Slater, Iowa, found the unusual right in our own Middlewest.

When he was a boy, the Nott family moved from Wisconsin to what was then the wide open spaces of South Dakota and settled on a ranch. They took with them a team of horses and a wagon on which was piled all of their wordly possessions, and crossed the Mississippi River on one of the first trains moving west to the open prairies.

Dentists in South Dakota in those days were few and far between. When anyone had a toothache, it was customary to head for the nearest barber. Doctor Nott was nine years old when he and his younger brother had toothaches and kept the family awake all night. That morning their father harnessed the team to the wagon and took the boys to the barber at Beresford, the nearest town to the ranch. After the boys had their haircuts, their father indicated Robert's brother. The barber reached into a drawer for his only pair of forceps and extracted the boy's aching tooth without anesthetics. Of course, there was considerable commotion by the patient. Robert observed the excitement. His father said, "Bob, you are next."

Robert wasn't having any. He grabbed his hat and dashed for the door. He hid in a patch of weeds to wait for his family to head home in the wagon. When it came, he climbed in it.

Nothing was said about his defection at the barber shop. He thought his father had forgotten about it. The family arrived home, the evening meal was consumed, and the chores were completed. Then Robert's father got up from the table and placed his hands on Robert's shoulders. The frightened boy ran to the back door, but it was locked. There was a footrace through the house, and Robert lost. With the hired man's foot on his Adam's Apple, Robert begged, "I give in." His father then pulled out the aching tooth with the barber's forceps he rented for 50c. That was Robert Nott's first introduction to dentistry.

Years later Robert was a full-time cow hand on his own ranch in the Crow Creek Reservation of South Dakota. His next adventure was a trip to a dentist who climbed upon his chest with hands and knees, while the dentist's wife held Robert in the chair. That was enough for Robert Nott. He sold his cattle, gave his finest horse to a friend, and said: "I'm going to learn how to be a tooth-puller who doesn't pull a man's head off. There's a place down in Des Moines, Iowa, that teaches dentistry. If I can't learn to pull teeth, I'll be back, but you can have the horse if I never come back."

More than fifty years passed before Doctor Robert Nott returned to the old family ranch north of Beresford. The town had changed and it was impossible to locate the old barber shop where he *didn't* get his tooth pulled. The building had been torn down years before and only a few landmarks remained in Beresford.

After a search of nearby farms, he located some old schoolmates. One of them asked, "Bob, how did you make all of your money?" Doctor Nott replied, "I haven't made any money yet; I'm just a country dentist."

Doctor Nott had a sweetheart. One day, after he had made a total of four dollars, he wrote a letter to her, asking her to marry him, with the promise that he would buy a good team of horses, rig up a wagon with a bed and stove, then take her out to California to the Odd Fellow Convention, the following year.

His proposal of marriage was accepted, but the wagon trip to California was never accomplished. They did not see California until Henry Ford put his Model T on the market.

In due time, baby Roberta came, and her baby picture was taken by Doctor Nott, with a pair of forceps placed across her chest. The family dog was given a gold-crowned tooth and baby Roberta's first doll had the only gold crown in the country. Roberta learned how to take over in her father's office and cleaned teeth for her schoolmates when her father was out of town. She spilled mercury on the floor when she tried to carry it to school in a pocket. She used forceps for nut crackers and curettes for nut picks. Then, she decided to be a dentist, but she was afflicted with polio. As the years passed, Roberta purchased a dental supply from the widow of a former owner and now she is operating her own business as the Nott Dental Supply of Slater, Iowa. Because Doctor Nott has a drawer full of old discarded forceps, Roberta is now giving a trade-in on old forceps and spreading the news that all oldtime dentists like her father should donate their forceps to dental students and young dentists.

Roberta tells how her father left South Dakota and arrived in Des Moines, Iowa, wearing cowboy boots and spurs. When he arrived at the Old Iliad Hotel he blew out the gaslight when he retired, just

Doctor and Mrs. Robert G. Nott.

as he had blown out the kerosene lamps in South Dakota. Doctor Knott denies it. Roberta also tells about the time her mother acted as an assistant for her father, and the family was shocked when a patient insisted upon removing a foundation garment before submission to an extraction.

At Slater, where he has practiced for over fifty years, Doctor Nott has been somewhat of a philanthropist. One evening, during the depression, the Nott family had guests. Two men came to the door. One of them had a toothache. They explained that both were broke and asked if Doctor Knott would pull the aching tooth. He agreed to do so, blocked the nerve, and removed a lower first molar. After the extraction, one of the guests said, "Doc, why would you waste an anesthetic on just a plain old bum without any money?"

Doctor Nott replied, "I don't care who the man is, rich or poor, he can always feel pain. I did that extraction because I would not willingly see any person in pain."

Years followed and more tramps came to Doctor Nott to have teeth extracted, and all dental work was done "for free." The Nott home was but a short distance from the Milwaukee railroad tracks. On the back of the family lot, Doctor Nott raised honey bees for a hobby. Every time a tramp came to the door and asked to have a tooth pulled, after the extraction Doctor Knott would give the patient a jar of honey and his wife would pack up a lunch for the man to take with him.

The town of Slater built a new house and it was called the "Hobo House." Tramps were given a free lodging for one night, one free meal, and then sent on their way. An old-time tramp who had no other place to stay was made custodian of Hobo House. He received free lodging for keeping the place clean. One day he went to Doctor Nott and said, "Doc, you've got to stop pulling teeth free for bums and giving away honey. Some of those guys have told me about signs all over the Pacific Coast reading, 'Free dental work and free honey at the big white house one block south of the Milwaukee tracks at Slater, Iowa.'" Doctor Knott stopped pulling teeth for nothing and giving away honey. A sign reading, "No more free dental work or free honey" was placed on the walls of Hobo House.

While Doctor Nott was only a freshman in dental college, at Des Moines, he and an older student decided to raise some funds to further their dental education. They decided to be bush-whackers and learn how to pull teeth. Going ahead of their scheduled stops, they billed themselves as the "Painless Dentists," passing out handbills two weeks ahead of their arrival. They crossed the States of South Dakota, Montana and Wyoming and put on a big front by stopping at the best "bowl-and-pitcher" hotels. When Indians wore nothing but a blanket and received monthly checks from the government, the Painless Dentists found long lines of Indians waiting for their services. Cocaine was mixed with any water available for anesthetics.

Doctor Nott's hobbies are hunting and fishing. He has studied taxidermy and at one time mounted his own trophies and specimens. His reception room was lined with heads, skins, birds, and animals until Mrs. Knott insisted on cleaning out the trophies. Doctor Knott's greatest regret is that he did not discover the State of Washington until it was too late to open a dental office surrounded by fishing and hunting grounds on all sides, with both fresh and salt water for fishing, and the paradise for hunters in the Olympic and Cascade Mountains. On his first trip through Washington, he said, "Why couldn't I have found this place over fifty years ago. I could live and die in heaven."

At the age of eighty Doctor Nott is still practicing and his spare time is utilized as a technical advisor for his daughter's dental supply. Because he vividly recalls the good old days of low prices, Doctor Nott reminds his daughter of one-dollar-a-pound mercury and the days when he ordered 400 pounds of plaster from a Missouri Gypsum mine. When friends ask Doctor Nott when he plans to retire, he says: "I'll practice as long as the Lord is willing and the Devil does not interfere." If you ask his wife, she will say, "He'll probably die at the chair with a pair of forceps in one hand."

Doctor and Mrs. Nott celebrated their golden wedding anniversary in 1954, and Doctor Nott became a member of the Drake University Golden Year Club in 1955. His graduation picture still hangs on the wall of his reception room. When patients ask, "Doc, are you in this picture?" he will reply, "Yes, find the one with the tassel on the wrong side of the hat and you'll find me."

The Hinsdale Medical Center, recently opened in Hinsdale, Illinois, is an ultra-modern, tri-level building with some 37,000 square feet of space, of which 18,000 square feet is a rentable area, while the remainder is occupied by a free medical library, health museum, and health theater.

Under one roof, the Center contains offices for some fifty practicing physicians, surgeons, and dentists. There are also an X-ray laboratory, a pathological laboratory, a prescription pharmacy, an optical dispensary, and a central stenographic service. It is the first major project of The Kettering Family Foundation.

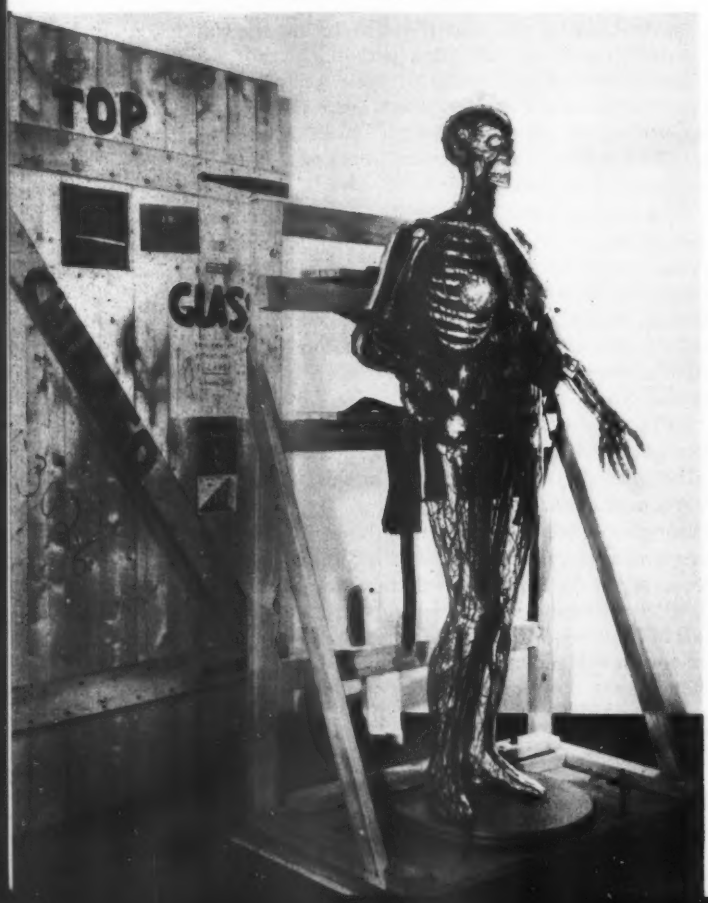
The Center was built at a cost of $1,200,000. All proceeds from rentals will be used to maintain the building, the museum, the theater, the library, and other projects of the Foundation.

The Center has a comprehensive medical library. A librarian is in daily attendance, and the handsome reading room will also be available for special medical conferences and meetings.

The Ca… ois.

HINSDALE MA…

The Transparent Talking Woman.



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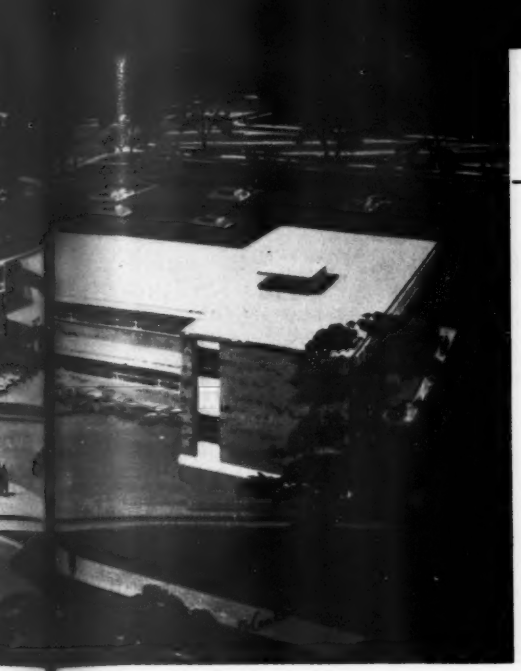


The Co[illegible]ois.

E KAL CENTER

All doctors renting offices in the Center must pledge themselves to donate a certain amount of their time to health education, utilizing the facilities of the museum and the theater.

The purpose of the museum is "promotion of better living for the individual and the family through better understanding of the normal body and how it functions." Special cooperation with schools throughout the area is an aim of the museum. It is also hoped that the museum may be a model and a pilot for other communities wishing to establish a health center.

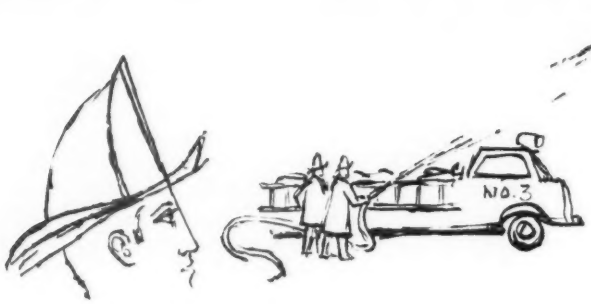
The health theater, which seats fifty-six persons, has a projection room, and films from the museum's film library will be shown on request. The theater is also available to the medical profession and the public for meetings related to medicine, health, and hygiene.

The museum is one of four museums devoted exclusively to health in this country.

Specially trained volunteers are present at all times to conduct visitors through the museum and perform various other duties.

[illegible]nts attra[illegible] modern displays.

Children look at an exihibit that tells them how they grew from a single cell.



Angles and Impressions

BY MAURICE J. TEITELBAUM, D.D.S.

What would you say the odds were for your office to burn down—to be reduced to ashes? Fifty thousand to one? A hundred thousand to one? A million to one? Actually, I don't have any statistics on the incidence of fire in a dental office, but a colleague of mine whose office was located a half dozen blocks away will tell you that the chances are better than even money. You see, his office was completely destroyed by fire yesterday.

I was over to see the remains of his office this morning and it looked like the inside of any abandoned coal mine. I was so shocked by the sight of the chopped-up floors, walls, and ceiling, and the charred ruins, that I thought I might do better justice to the subject of fire prevention, as repetitious as it may be, than the usual dental humor and trivia I had prepared.

The holocaust was brought under control in a matter of fifteen minutes when the firemen arrived at the scene but the flames had spread so rapidly and the heat was so intense that even the wall telephone was reduced to an elongated glob of stringy black plastic. "How in the world did it happen?" I asked the dentist. He shook his head, "I tell you it happened so fast I really couldn't believe it was happening." The fire started in the small laboratory adjoining the operating room. A patient was in the chair and the dentist was heating some compound over a bunsen burner in the laboratory preparatory to taking a copper band impression. The bunsen flame was large and roaring and a bottle of alcohol was nearby. The alcohol had been used and the bottle cap was off. Apparently a finger of flame touched the wet bottle top and in a moment fire shot upward toward the shelves. The dentist turned quickly toward the operating room to get water from the sink but by the time he turned about again the laboratory was a blazing furnace. The patient was hurried from the room, the firemen were called, and in a short time a sparkling clean dental office was reduced to a wet, black, smoke-filled den of dirt and debris. Yes, it can happen—but don't let it happen to you.

Here are a few suggestions to enable you to stretch those odds against your office being destroyed by fire:

(1) Be sure that all the wiring in your office is sound and properly done. Sloppy, "do-it-yourself" wiring may turn out to be more expensive than the cost of a licensed electrician.

(2) Don't use any flame near an open window or wind current.

(3) Don't use any flame or smoke near any combustible material. Be especially careful of alcohol, acrylic liquids, chloroform and paper goods.

(4) Be sure that your burners are shut tight when not in use and that all combustible liquids are in tightly closed and dry bottles.

(5) Don't throw matches or cigarette butts into waste baskets. Put them in ash trays and see that they are properly extinguished.

(6) Don't keep any oily rags or combustible trash lying around in your laboratory.

(7) Keep your burnout oven and casting machine clear of any combustible material.

(8) Place your hot casting rings on asbestos pads.

An ounce of prevention may be worth a pound of insurance but if you want to have peace of mind be adequately insured against fire. Check your policy and see that you are covered not only for the office itself but also for its contents. Another policy that is worth-while and is very nominal is one that pays you for the time you are unable to practice because of a fire in your office. This type of work-interruption insurance can pay you as much as $1,600 a month for three months, depending upon the premium you are able to pay. Don't delay—check your office for fire hazards today! And check your insurance so that you are fully covered for that fire that might occur. It can happen to you!

446 Clinton Place
Newark 12, New Jersey

PROMOTE AND PROFIT VIA PUBLIC RELATIONS

BY M. A. PATRICK

Some years ago a Dover, Delaware, dentist was given some basic practice-building advice. He was fresh out of dental school when an older associate told him: "Make each of your patients feel important, and take time to convince him of your personal interest in his dental problems."

The more experienced dentist pointed out that when these practices are applied seriously the result is a promotion of patient relations of the sort that wins confidence, prompts proud references to "my dentist," and encourages the referral of others to the practitioner's office.

Today in his own successful practice the Delaware dentist still follows the suggestions, and recently he claimed: "These tips have undoubtedly helped hold my patient-turnover to a minimum." He is also convinced that the emphasis he has placed on developing good will accounts for the above-average regularity with which most of his patients call for appointments. From a patient standpoint, the effectiveness of the dentist's technique is revealed in the remarks of one woman who says: "I dislike dental operations intensely. But when I telephone Doctor W. his friendliness calms my fears. I'm glad I called, and I make an appointment with the assurance that my dental problems will be eliminated without trouble."

The need for such procedures as these may appear elementary, but as the Dover dentist recognizes, it is all too-easy when sandwiching telephone calls into a crowded chair-time schedule to have your voice take on a patient-annoying "hurry up" tone. He works to prevent this, keeping in mind his professional responsibility and that his family's welfare are linked with the patient's telephoning. "After all," he reminds himself realistically, "a single patient influences income by hundreds of dollars over a period of years, and winning that sum hinges on preserving good patient relations with the one requesting an appointment."

"ALL FINISHED, MR. HATCH — MR. HATCH?"

The "Dollar Story"

The respect of the lay public is an asset that may take a dentist an extended period to develop, but one young dentist is convinced that the present economy requires a speed-up in getting dentistry's dollar story known to all his patients. He is attempting this task by including references to car-buying in his chair-side conversations. He explains to individual patients during pauses in his operations that in purchasing a car today it is required to put out three to four times as much money as in 1940. By way of comparison he then quotes surveys revealing that dental fees today are still less than double those charged in 1940. To sum up, he states frankly: "Good oral health and improved personal appearance through professional dental care are bargains today." It is this dentist's conviction that such efforts as these are essential in defeating the subtle forms of competition not always recognized in dental practices. These, incidentally, will be discussed in more detail later.

The need for including educational facts in his relations with patients was recently made the subject of a special investigation by one eastern Pennsylvania dentist. He enlisted the cooperation of the personnel manager of an

industrial firm in making a spot-check among twenty-five of the company's office employees, whose ages range between twenty and fifty-five. These men and women were asked if their dentists had ever fully explained the financial and social benefits of regular dental appointments. To detail this question it was pointed out how regular professional attention saves money by reducing the possibility of costly emergency operations and also cuts down on the time lost from work due to dental ills. As for the social advantages, those questioned were told that an improvement in appearance in the dental area invariably results in an increase in personal confidence, and in turn may open up better job opportunities.

When the reports were checked, it was found that only three of the workers could recall having these facts brought to their attention while being treated by their dentists. The veteran dentist responsible for this investigation includes such topics in his conversations with patients because he feels that the side benefits of professional services are remembered longer and should be stressed in all patient-relations efforts. "Getting patients to think in these terms," he says, "is essential if the long-range potentials of a practice are to be realized." He explains that most men and women who walk into a dental office look upon the practitioner as an informed authority, and they are receptive to his counsel. "This is a silent invitation," he claims, "that may be used to direct each patient toward dental habits that will return him regularly for professional treatment." Of course, this in turn leads to an improvement in the dentist's income.

Injurious Gossip

A dentist who has gained experience in public relations while doing committee work for his local society has called attention to the unfavorable news stories and word-of-mouth reports currently going the rounds about some of the professions. Even though they may refer to isolated instances or to only a few individuals, the public in characteristic fashion is inclined to tag all members of the groups with responsibility. Fortunately dentistry has not been included in these attacks but, as the dentist points out, this condition should not invite contentment but should serve to put all dentists on guard.

This is required, the dentist insists, to maintain existing patient relations but also to fight off any tendency toward declining demand for professional dental services. He made an interesting observation on this score when he said that up to thirty-five percent of the men now in the profession may have been lured into believing that a growing practice with a constantly increasing list of patients is a normal condition. This may be so, he says, because the men in question have established offices during the past fifteen or twenty years, a period when requests for appointments have shown the greatest increase in dental history. As a result of questioning some in this group, he has found that a number believe the expansion of a practice is tied in entirely with competition created by the number of dentists practicing in a given area.

Competition?

Economists who have studied individual professional operations argue that the most serious threat to a dental practice is not other practitioners but the buying habits of consumers, the seeming generosity of finance companies, attractions offered by department stores and specialty shops, and all other non-dental interests working to attach importance and necessity to the products and services they have to sell. Their objective is to get an increasingly large share of wage earners' dollars. This applies at all times but is emphasized when there is less excess money available or the family breadwinner finds it necessary to be more selected in dividing each of his dollars. At such times the opinion of a possible patient as to what is a luxury and what is not determines his decision. As the economist indicated, it is relatively unimportant if a prospective patient devotes time to deciding between one dentist and another, since the law of averages will eventually benefit all dentists. However, it is an entirely different situation when he weighs the purchase of a sports jacket against needed dental work, and elects to purchase the former.

The development of good patient relations that bring MORE PATIENTS INTO MORE DENTAL OFFICES MORE REGULARLY rests on a variety of factors. It may be the sincere "Thank you" expressed verbally or written across the bottom of a payment receipt when a fee is paid. It can be the attractiveness of the dentist's reception and waiting rooms, the understanding consideration of the office assistant, and the modern techniques and equipment used by the practitioner. In short, it is any word, action, or thing that lifts the opinion of the patient for the dentist and for his profession.

And, of course, good patient relations will develop faster when the dentist remembers to explain the "what," "why" and "how" of his materials, operations, and appliances. A lay person is not equipped to weigh the importance of these without assistance. When explained in general terms, however, they combine to strengthen a patient's conviction that he is receiving the finest benefits of the most modern dental developments. On this knowledge good patient relations are built and office operations made more profitable.

GROUP DENTAL CARE PROGRAMS

Part 10 — BY JOSEPH GEORGE STRACK

This series of articles has been focused upon the growing interest in group dental care programs in the United States. Thus far that interest has been modest, for not much more than 500,000 people are covered by such plans, and less than 350,000 of these are insured under plans that provide any reasonable degree of unrestrictive restorative service.

However, because coverage in hospital care programs and medical care programs has increased so rapidly in so short a time, and because 116 million people are today insured for some kind of hospital and/or medical care, a number of dentists and laymen believe the group dental care movement will continue to spread steadily—especially in an era so security-conscious, so insurance-conscious, as is this one. No one of course, expects that group dental care programs will achieve the mass coverage reached by the hospital and medical care plans.

This series has tried to present all major schools of thought on these plans. It appears that most spokesmen for these schools seem skeptical about any substantial development of group care plans in the immediate future. This attitude is probably best represented, at least in broad terms, by a recent writer on the subject, J. F. Follmann, Jr., of New York City. Writing in the February 1958 issue of the *Journal of the American Dental Association*, after reviewing the progress, lack of progress, and failure of a variety of plans, Mr. Follmann commented:

"In attempting to determine whether insurance or prepaid dental care plans are feasible, it is necessary to face several questions squarely. Is there a public desire or demand for such plans, recognizing that care has to be paid for in some manner and that the public rightfully is interested in that method of payment which is least costly? If such plans or methods were more numerous than is presently the case, would there be the required broad public acceptance of them? Would such plans answer the tests of any sound insurance mechanisms: that is would they confront a group of exposure units sufficiently alike and numerous to make predictable the loss over a period of time; could the loss be verifiable; would the loss be truly accidental compared with willful or certain? Would such plans provide the most expeditious manner of financing dental care, or is dental care better paid for by the individual through regular budgeting from earnings: recognizing that insurance is most effective when directed toward covering losses sizable enough to be really harmful to the insured and that the antithesis is often uneconomical?

"The answers to these questions, if known, would appreciably aid in any needed development of insurance mechanisms for dental care. The paucity of well-rounded, usable information, however, leaves the answers in the realm of speculation."

Mr. Follmann concluded that experience to date of dental care plans indicates that a very real problem is the lack of adequate interest in this form of protection by the general public. He added:

"Three obvious problems immediately present themselves from the standpoint of dental care as a proper subject for insurance or prepayment. One is that a portion of dental work is elective and at times a matter of cosmetics rather than medical necessity; orthodontics can be an example of this. Another is that most dental care is not, or need not be, either sudden or sizable in its occurrence; that is, it could, or can occur periodically, the cost of which is regular and not usually sizable and, hence, more subject to family budgeting in most instances than to an insurance mechanism. The third is that often where costly work is needed, it is the result of needs which have accumulated for a period of years prior to the inception of the insurance protection and hence a pre-existing condition which is generally recognized as not being a fit subject for sound insurance practice."

He believes that the lack of public demand for such protection and the preoccupation of insurers

"with other, perhaps more urgent, social demands would not seem to portend a too rapid development, however. In the interim, the experience of those attempts presently in operation will be observed with a great deal of interest."

Mr. Follmann made an interesting suggestion: that provision for certain dental care protection be made in major medical expense insurance, rather than in separate dental care insurance. He believes that the more costly and serious forms of dental care, which present the greatest hardship and thus might be considered logical subjects for insurance, could be incorporated in a medical care program. He concluded: "Insurance or prepayment for general or comprehensive dental care on a broad scale does not appear to be immediately on the horizon and will probably await greater public demand. Hence, it might be expected that progress will proceed in an orderly manner, starting first with coverage for oral surgery and other costly procedures on a scheduled basis."

"DR. FENWICK? . . . WHAT ARE YOU CHARGING FOR AN EXTRACTION THESE DAYS?"

On the other hand, men like Doctor Walter J. Pelton believe that the group care movement in dentistry could grow substantially through plans designed primarily to meet the dental needs of children. A number of labor leaders agree, and they have been experimenting with such plans and have made them an important segment of labor's "fringe benefits."

In an editorial he contributed to the June issue of the *American Journal of Public Health*, Doctor Pelton said that prepaid dental care in this country today is at a stage of development comparable to that of hospital insurance twenty-five years ago.

He emphasized that the idea of dental prepayment is new and that development of the concept has been inhibited by a number of factors which are now being overcome. A major deterrent has been the concern of the general public with means of meeting the problems of protracted, disabling, and costly illness, with the subsequent growth in hospital and medical care plans and the consequent neglect of other health care plans, such as dental service. But he commented hopefully: "Now, it appears people are awakening to the fact that dental health is an important part of the total health picture," and added:

"The latent market for dental plans is probably greater than expressed demands now indicate. How much of the potential demand can be met—and how soon—depends on finding solutions to several problems unique to dentistry. The most serious is that of meeting the costs of initial treatment, because it is assumed that nearly all subscribers will have some need of such treatment. If plans cover initial needs, premium charges may be too high for salability. If patients are required to pay for extensive preinsurance treatment, they may become convinced that subsequent advantages of membership do not justify the immediate expense involved."

In support of his belief that prepaid dental care is making significant progress, he listed the following "notable firsts" since 1950 in dental prepayment:

1. Establishment of the group practice clinic which employs its own dental staff to serve members.

2. Creation of the dental service corporation, formed by dental societies or individual dentists, through which contracting groups receive treatment in the private offices of participating dentists.

3. Development of insurance plans which cover accidental injury to natural teeth, and extension of major medical prepayment plans to include major dental surgery.

He summarized the situation, as he saw it, in these terms:

"Although the gains made in recent years have been continuous, prepaid dental care is only now entering the critical stage of its development. As public demands for coverage increase, the need for effective and efficient programs to meet those demands becomes essential. It is in this area that health and dental groups have a new and challenging opportunity for constructive action. Consumer groups interested in establishing prepaid dental programs will seek not only the services of the profession, but their guidance as well. For it is only through professional participation in program development that the quality of treatment can be assured. With this in mind, health and dental groups should begin now, while there is still time for considered planning, to devise prepaid dental service programs which will guarantee the highest possible standards of dental care to a new and larger public."

FINAL INSTALLMENT—NEXT MONTH

Maximum Insurance, Minimum Cash

BY JOSEPH ARKIN, C.P.A.

The young dentist, like so many of his counterparts in other professions, faces the problem of providing adequate insurance and/or family income protection when his income is at its lowest ebb.

The long years of schooling; heavy outlay for purchase of expensive office equipment, instruments, supplies and furnishings; the early years of building a practice—all constitute an unusual financial burden and do not leave room for the investment of funds for establishment of an adequate insurance program.

How then can the young dentist, struggling to make his way in the world, overcome these difficulties? The answer is possibly contained in a relatively new type of insurance program.

Called the "bank plan" (which is a misnomer, inasmuch as a bank is not actually involved) the plan calls for the purchase of a large amount of insurance, but the bulk of the premium is borrowed from the insurance company at legal interest rates.

The insurance company is under contractual obligation to continue to lend the policyholder part of the premiums due.

The interest paid to the insurance company for the portion of the premium borrowed is deductible on an individual's federal income tax return under existing regulations and provisions of the Internal Revenue Code.

Like any other tax "gimmick," a study is underway by officials of the Internal Revenue Service on this subject. However, a great many tax practitioners and tax services seem to feel that if the contract for the loan is properly drawn, and the interest actually paid and not added to the loan, that any attack upon the deductibility of the interest would fail because of the constitutional guarantees relating to contracts.

A major feature of this plan is this: for the payment of an additional premium, the insurance company provides in its policy that until the age of sixty-five *the amount of the loan is not deducted upon death, and that the beneficiary will receive the full face amount of the policy.*

Here is an illustration for a $50,000 policy at age 36. The annual premium with rider previously explained is $1,191.

YEAR	ANNUAL PREMIUM	DUE TO COMPANY PREMIUM	DUE TO COMPANY INTEREST	NET INTEREST*	CASH OUTLAY**
1	$ 1,191	$ 657	$ 26	$ 16	$ 673
2	2,382	43	75	53	96
3	3,573	28	122	85	113
4	4,764	13	169	118	131
5	5,955	52	211	148	200
End of 10 yrs.	11,910	1,403	2,294	1,605	3,008
End of 20 yrs.	23,820	2,828	8,873	6,211	9,039

* using 30 percent tax bracket for illustrative purposes.
** net cash outlay after tax savings.

Evaluation of these figures shows that there is a total cash outlay of $1,403 for premium due (after borrowing the cash values from the company) plus interest charges due of $2,294 for a ten-year total of $3,697 or just $369.70 per year for $50,000 insurance protection. And—this figure is before any tax saving, depending on the individual's tax bracket, for the interest deduction.

COMPUTATION 10-YEAR COVERAGE

Tax Bracket	Cash Outlay After Tax Savings
20%	$323.82 average per year
22%	319.23 average per year
26%	310.06 average per year
30%	300.80 average per year

For $50,000 of insurance coverage.

The traditionally minded insurance agent finds various faults with this type of policy and tends to criticize this revolutionary new type of coverage. Many companies are already selling this new coverage as each day they discover the growing demand.

Careful analysis reveals that the highest amount of insurance protection is needed for the dentist's small children during the formative years. As his fortunes progress (and the children become self-sufficient) he can set up an investment program for old age based upon common stock investments or mutual fund shares, coupled with a small amount of insurance.

69-07 224 Street
Bayside 64, New York

More than 200 prehistoric remains, with possessions uncovered and left in original positions.

The Dickson Mound

TEXT AND PHOTOS BY AUTHENTICATED NEWS

Halfway between Lewistown and Havana, Illinois, there is an important and interesting archeological exhibit known throughout the world as the Dickson Mound. It is a large crescent-shaped prehistoric Indian cemetery-mound, built centuries ago on top of one of the many hills of the Illinois River bluff line on land that was in the Dickson family four or five generations.

Examples of dental pathology displayed in the museum.

More than a hundred years ago, when pioneers were clearing the hill for farming and a home site, many evidences of burials were found in the mound area. In subsequent farming, excavating for buildings and by natural soil erosion, burials and artifacts were encountered. This continued down through the years.

In 1927, Doctor Don F. Dickson originated the plan of excavating the mound and leaving the burials in their original positions together with their possessions. At first, the structures protecting the work were temporary. As more space was needed, the present tile building was erected. Doctor Dickson continued the excavation with the help of his father, Thomas M. Dickson, and one of the latter's brothers, Marion H. Dickson. Later on, after Thomas Dickson's death, another of his brothers, Ernest J. Dickson, joined Don and Marion in explaining the finds to visitors. Through the years, the Dicksons have taken care of the preservation of the material very successfully. They also tell the story of these first Americans to more than 125,000 visitors who come from all over the world to see the excavation each year.

From the mound, there is a wonderful view over thousands of acres of the Illinois and Spoon River Valleys. Spoon River was made famous by the Illinois' poet, Edgar Lee Masters, who frequently referred to it in his writings.

Visitors comment on the "good teeth" of the Mound Builders. There is less deterioration of the teeth posthumously than of bone, and the enamel remains white, giving the appearance of good teeth. The teeth were good, on the average, but by no means perfect. There are examples of most of the dental diseases and anomalies encountered among whites today.

Dental conditions of the prehistoric Indians varied in different areas of America, depending greatly on diet variations. Limited transportation facilities forced the Indian to use the food which was indigenous to this area. Where corn was used extensively, teeth showed pronounced attrition or wear, due perhaps to bits of powdered stone from the mortars on which they ground their grain.

Pyorrhea was present, but perhaps less than with the white man of today. Examples of dental caries or wear, supernumerary or displaced teeth, congenital absence of one or more teeth, impactions and abscesses affecting both the teeth and surrounding bone are also on display.

Visitors become interested with the many problems of primitive man, what they were and how he solved them. Some of them are problems which we cope with, even today.

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